# DIGITALIZATION OF HEALTHCARE AND TELEMEDICAL TECHNOLOGIES AS A MECHANISM FOR INCREASING THE ACCESSIBILITY OF MEDICAL CARE

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**Annotation**: *Digital healthcare is one of the areas of implementation of the Healthcare Development project. The article discusses the main factors that determine the features of providing medical care to the population in remote areas. The purpose of this research is the development of digital medicine. analysis of the state and development prospects. The main conclusion obtained in the course of this study is that the successful implementation of digitalization of healthcare will not only improve the quality and accessibility of medical care, but will also bring significant economic benefits to the state.*

**Key words:** *digitalization of healthcare, telemedicine technologies, quality of medical care, information technology.*

## INTRODUCTION

In the course of this study, the following tasks were identified: to identify mechanisms that hinder the implementation of the digitalization process of healthcare and to identify possible ways to increase the availability of quality medical care, taking into account available tools.

The object of this study was the digitalization of domestic healthcare, the subject of research is the regulatory framework that ensures the process of transforming traditional healthcare into a digital circuit.

The author has put forward a hypothesis of using telemedicine technologies to increase the availability of medical care for rural residents.

The relevance of this study is due to the fact that the social consequences of healthcare digitalization are not sufficiently developed.

The scientific novelty of the study lies in the fact that the author proposed an algorithm for increasing the availability of medical care for the rural population, invested in strategic directions for the development of digital medicine in the Republic of Uzbekistan.

Uzbekistan is fully exposed to global trends in the development of digital technologies. The formation of a digital economy on a global scale helps to increase the competitiveness of the country’s economy and improve the well-being of the population [1].

The development of the healthcare sector is carried out under the leadership of the Ministry of Health. The Ministry of Health coordinates the activities of the Project Office for Managing Digital Health Systems.

The regulatory and legal basis for the implementation of digitalization of healthcare is a number of instructions of the President of the Republic of Uzbekistan [1]. Presidential Decree on the approval of the “DIGITAL UZBEKISTAN-2030” strategy and measures for its effective implementation [4], the national program “Health Development” [1]. There is also a priority project “Electronic Health”, implemented by the Ministry of Health of the Republic of Uzbekistan.

“Electronic healthcare”, which highlights the main priorities for the development of healthcare using information technology [1]:

- digitalization of healthcare through the implementation of: a unified state information system in the field of healthcare with a comprehensive analytical program for processing large amounts of information;
- ensuring the availability of medical services using electronic appointments, electronic prescriptions and sick leave certificates, electronic document management;
- introduction of information technologies, such as telemedicine, into the healthcare system.

Materials and methods. On the topics “Digital Medicine”, “Digitalization of Healthcare”, “Telemedicine”, an analysis of the literature, an analysis of the current regulatory documents of the Republic of Uzbekistan, as well as an analysis of open Internet resources were carried out. The solution to the above problems was carried out using general scientific approaches, empirical research methods, including the study of various data sources, synthesis and generalization of information.

Results. The main advantages of healthcare digitalization can be identified in at least 3 areas. Financial funds are generated by modernizing the organizational system for providing services, which will reduce costs by reducing contacts between patients and medical personnel (simplification and acceleration of the process of making an appointment with a doctor and calling a doctor at home, simplifying the procedure for obtaining a prescription, reducing costs for office supplies and payment for work support staff).

Social benefits are created through the increased availability of quality medical care (online consultations, the introduction of medical mobile applications for monitoring the health status of patients and prompt transmission of information to the doctor, early diagnosis of diseases using artificial intelligence, and others).

Professional benefits are achieved by reducing the number of medical errors and increasing the efficiency of clinical trials. An increase in demand for medical services with a simultaneous increase in requirements for their quality leads to an inevitable increase in the cost of medical services.

The state faces a serious problem - to ensure the availability of all types of medical care guaranteed by law. As global and domestic experience shows, increasing healthcare funding alone is not enough to fully solve this problem. The solution was found in the integration of available healthcare resources in their optimization and effective planning.

In order to improve the quality of management, optimize patient flows, organize barrier-free interaction between all parts of the healthcare system, and intensify the processes of widespread and rapid introduction of the latest diagnostic and treatment technologies into medical practice, a Unified State Information System in the field of healthcare (USHIS) is being created.

The development of the system is regulated by the Concept of creating a unified state information system in the field of healthcare, approved by order of the Ministry of Health of the Republic of Uzbekistan dated December 7, 2018 No. UP-5590, as well as a number of methodological recommendations and functional requirements for individual components of the system, which are appendices to the order. The USHIS is implemented at the level of all subjects of the Republic of Uzbekistan and is the main information system for the entire healthcare sector of Uzbekistan.

It is possible to ensure the connectivity of the information space in all clinics and hospitals in the country using a single format for processing medical information electronically and interaction regulations. Organizations must be equipped with medical information systems, which can also be used to maintain electronic medical records. However, this process is not complete. The transition to a national information system was initially carried out in pilot regions, and therefore there were no unified requirements for information systems[7].

This system simultaneously describes several types of information systems, but all of them must post information and interact with each other in a single state information system in the field of healthcare. The implementation of programs and projects for citizens, among other things, will serve to increase the level of quality medical care for rural residents.

However, the implementation of the healthcare digitalization process faces a number of problems. First of all, technical problems: not all medical organizations in the constituent entities of the Republic of Uzbekistan are connected to high-speed Internet and the Unified State Health Information System. Patients' skills in using information technology and using high-speed Internet are also low.

The issue of security and storage of large amounts of information is also relevant; distrust of information systems remains, both on the part of doctors and on the part of patients. The problem of staff shortages comes to the fore due to the increased workload on medical personnel during the transition period, as well as due to the shortage of specialists with sufficient qualifications. This problem arises especially acutely in the regions and in particular in rural areas.

Full integration of advanced medical technologies into a doctor's daily practice will significantly accelerate the transition to digital health care and will undoubtedly bring economic advantages over traditional forms of communication between doctors and patients.

In recent years, the development of medicine has accelerated significantly, which is mainly due to external reasons, in particular, the inability to see a doctor after the outbreak of the Covid-19 epidemic and the high workload of the healthcare sector. Thanks to the active development of medical technologies, urban residents have increased access to quality medical care. A distinctive feature of local healthcare informatization is the persistence of digital inequality in sparsely populated areas.

In this regard, the author of the article proposes a model for increasing the level of medical care for rural residents using advanced medical technologies. As the authors noted earlier, the digitalization of healthcare in Uzbekistan has its own characteristics: the persistence of digital inequality in rural areas, lack of high-speed Internet connection, technical difficulties (outdated gadgets that make it difficult to use electronic services), low level of skills of the population to work with information systems, distrust of medical personnel patients to new forms of interaction with them.

The main advantages of the proposed model: the presence of a doctor at the place of direct service is not required, only the ability to communicate with a local paramedic. Complex cases requiring in-depth examination should be sent to district and regional specialists, but even in this case, the patient will contact the doctor with the data of the initial examination, which will reduce the time for standard procedures when the patient first contacts the doctor.

The presented scheme of interaction with healthcare specialists in rural areas contributes to solving one of the strategic tasks of digitalization of healthcare - increasing the availability of quality medical care.

It will also increase the interest of the population in regular monitoring of health parameters, since for residents of remote areas the process of obtaining services will be significantly simplified without additional costs.

The next task solved by the proposed model is increasing the coverage of the population with the availability of quality medical care.

Discussion. The main problem is that for Internet providers, connecting sparsely populated areas is not attractive. On the one hand, the process is technically complex, on the other hand, the cost of connecting a unit is high due to the low population density.

Therefore, high-speed Internet coverage of households outside cities remains low. If such socially significant facilities as first aid stations and medical outpatient clinics are connected to high-speed Internet, in accordance with regional development priorities in the field of digitalization, the coverage of the population with access to highly qualified medical care will increase.

We also cannot ignore the fact that patients have mistrust of new information technologies, which negatively affects not only the outcome of treatment, but also complicates the overall implementation of the digitalization process of the industry. This example contains a traditional element of contact with a healthcare specialist, which, on the one hand, will ensure the quality of the information entered into the medical documentation, and on the other, will allow patients from rural areas to interact psychologically comfortably.

Conclusion. The implementation of the digitalization process of domestic healthcare does not yet meet the expected level in accordance with the strategy for the national development of the healthcare sector. The author has identified the following mechanisms that impede the full implementation of informatization: the persistence of digital inequality between the urban and rural populations, inertia on the part of doctors and patients in the use of digital technologies in medicine, the lack of unified criteria for assessing the effectiveness of the implementation of digital products in medicine.

Taking into account the problems described in this study, medical technologies can be used to increase access to medical care, including for the rural population.

Digital technologies will facilitate the routine work of doctors, which in the future will allow them to spend more time communicating with the patient. Directly for medical organizations, digital technologies are a tool for development, patient satisfaction with the level of medical services, and will also increase life expectancy in accordance with the National Strategy for the Development of Healthcare in Uzbekistan.

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